

REMARKS

The Office Action dated January 3, 2005 and the Advisory Action dated February 24, 2005 have been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 1-7 are currently pending in the application. However, claims 4-7 have been withdrawn; therefore, claims 1-3 are respectfully submitted for consideration.

This Supplemental Response is being filed, along with an RCE, because the Advisory Action dated February 24, 2005 stated that the amendments filed on January 31, 2005 raised new issue which would require further consideration or search. Applicants respectfully request that the amendments filed on January 31, 2005 be entered and considered.

The Advisory Action dated February 24, 2005 indicated that the proposed amendments, included in the Response of January 31, 2005, appear to introduce problems under 35 U.S.C. §112, first and second paragraphs. The Advisory Action alleges that the specification fails to disclose how the heat exchanger is configured to heat the intermediate fluid. Applicants respectfully disagree.

Applicants respectfully submit that paragraphs 0019-0022 of the current specification discuss how the heat exchanger heats the intermediate fluid. Specifically, the specification states “an intermediate fluid, such as glycol or fresh water, is circulated by a pump 22 through the vaporizer 23 and the submerged heat exchanger 21... the

submerged heat exchanger 21 enables heat transfer from the surrounding sea water to the circulated intermediate fluid without the intake or pumping of sea water into the LNGC” (Specification, paragraphs 0020-0021). Therefore, the specification clearly describes that the heat exchanger allows for the transfer of heat from the surrounding sea water to the intermediate fluid. As such, Applicants respectfully assert that the specification clearly describes how the heat exchanger is configured to heat the intermediate fluid.

Applicants also note that the Advisory Action stated that Applicant’s arguments included in the Response dated January 31, 2005 were based on an overly narrow interpretation of the prior art and the rejected claims. Applicants respectfully but strongly submit that the arguments are based on what is specifically disclosed in Zednik, and, as such, are not based on a narrow interpretation of the prior art. Furthermore, Applicants respectfully submit that the arguments are only based on what is explicitly recited in the claims of the present application.

In the Office Action of January 3, 2005, claims 1-3 were rejected under 35 U.S.C. §102(e) as being anticipated by Zednik (U.S. Patent No. 6,089,022). The rejection is respectfully traversed as being improper since the presently pending claims recite subject matter that is neither disclosed nor suggested in Zednik.

Claim 1, upon which claims 2 and 3 are dependent, is directed to an LNG carrier for transporting LNG from one location to another. The LNG carrier includes a vaporizer onboard for vaporizing the LNG to a gaseous state. At least one heat exchanger is at least partially submerged in water, and an intermediate fluid circulates between the vaporizer

and the heat exchanger. At least one pump is provided for circulating the intermediate fluid. The heat exchanger is configured to heat the intermediate fluid.

As a result of the claimed configuration, a self-contained LNG carrier is provided wherein liquid natural gas can be regasified either onshore or offshore, at each location at which LNG may be delivered. As will be discussed below, Applicants respectfully submit that Zednik fails to disclose or suggest the claimed invention, and therefore fails to provide the critical and unobvious advantages which are discussed above.

Zednik discloses that LNG is pumped by submerged pump 18 from tank 16 through line 20 and is delivered to a booster pump 21. Booster pump 21 raises the pressure of the LNG before it is passed to vaporizer 25 through line 22. Vaporizer 25 uses sea water as a heat exchange medium to vaporize the LNG into natural gas before it is flowed to shore through transfer line 13 and submerged pipeline 14 (Zednik, Column 4, lines 33-41). An inlet 40 of vaporizer 25 may be fluidly connected to sea chest 50 which is positioned below the waterline to collect sea water therein (Zednik, Column 5, lines 29-31).

Applicants respectfully submit that Zednik fails to disclose or suggest an at least partially submerged heat exchanger for heating an intermediate fluid, as recited in present claim 1. According to an embodiment of the claimed invention, an intermediate fluid, such as glycol or fresh water, is circulated by pump 22 through the submerged or partially submerged heat exchanger 21 and then the vaporizer 23. The heat exchanger 21 enables heat transfer from the surrounding sea water to the circulated intermediate fluid due to the

temperature differential between the two. The intermediate fluid then circulates to the vaporizer 23. LNG is passed into the vaporizer 23 through line 24, where it is regasified and exits through line 25 (Specification, Paragraph 0041).

Applicants respectfully assert that the sea chest 50, disclosed in Zednik, does not correspond to the heat exchanger of the present invention. According to Zednik, the sea chest 50 is only a sea water collection container and a source of sea water to the inlet 40 (Zednik, Column 5, lines 29-31). Zednik fails to disclose or suggest that the sea chest 50, or any other device, is configured to heat an intermediate fluid as recited in the current claims. Applicants respectfully assert that no heat exchange of any type occurs in the sea chest 50. Rather, the sea chest 50 is provided in order to collect sea water (Zednik, column 5, lines 30-32). Whereas the heat exchanger of the present invention enables heat transfer from the surrounding sea water to the intermediate fluid **without** the intake or pumping of sea water into the LNGC. Zednik fails to disclose or suggest such an element, and therefore fails to disclose or suggest an at least partially submerged heat exchanger for heating an intermediate fluid.

In addition, Applicants respectfully submit that Zednik fails to disclose or suggest an intermediate fluid circulating between the vaporizer and the heat exchanger, as recited in claim 1. Applicants respectfully assert that the sea water disclosed in Zednik as heating the LNG does not correspond to the intermediate fluid of the claimed invention. As discussed above, according to an embodiment of the claimed invention, the heat exchanger 21 allows the sea water to heat the circulating intermediate fluid which is then

sent to the vaporizer 23. If the sea water corresponded to the intermediate fluid then there would not be any need to heat the intermediate fluid with the sea water, as they would be one and the same. The present specification provides examples of intermediate fluids as being glycol or fresh water (Specification, paragraph 0020). Therefore, according to one aspect of the present invention, the intermediate fluid is a fluid other than sea water which is used in the regasification process. As such, Applicants respectfully assert that Zednik fails to disclose or suggest such an intermediate fluid.

For at least the reasons discussed above, Applicants respectfully submit that it would have been clear to a person of ordinary skill in the art that Zednik does not disclose or suggest at least one heat exchanger at least partially submerged in water and configured to heat an intermediate fluid, nor does Zednik disclose or suggest an intermediate fluid circulating between the vaporizer and the heat exchanger.

Applicants note that claims 2 and 3 are dependent upon claim 1. Therefore, claims 2 and 3 should also be allowed for at least their dependence upon claim 1, and for the specific limitations recited therein.

In view of the above, Applicants respectfully submit that each of claims 1-3 recite subject matter that is neither disclosed nor suggested in Zednik. Applicants submit that the subject matter is more than sufficient to render the claimed invention unobvious and unanticipated to a person of ordinary skill in the art. Applicants therefore respectfully request that all of claims 1-3 be found allowable, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Request for Continued Examination